AMENDMENTS TO THE CLAIMS

1. (Currently amended) An acoustooptic filter comprising:

an acoustooptic substrate; ~~having~~

an optical waveguide disposed along ~~at~~ a ~~principal~~ surface of the acoustooptic substrate;

an interdigital electrode disposed on the acoustooptic substrate, the interdigital electrode ~~and~~ exciting a surface acoustic wave ~~for converting a mode of light guided in the optical waveguide,~~; and

a surface wave waveguide for the surface wave excited by the interdigital electrode extending in substantially a ~~the~~ same direction as the optical waveguide[[,]] and coupled to the surface acoustic wave excited by the interdigital electrode such that the mode of the light guided to the optical waveguide is ~~being~~ converted by the surface acoustic wave~~; and~~,

the surface wave waveguide including a phase match condition changer that changes ~~changing means for changing~~ a phase match condition of the surface acoustic wave and the light guided to the optical waveguide at a mutual action area by about 0.235% or more from a state in which phases are matched, the mutual action area being an area where the surface acoustic wave and the light guided to the optical waveguide act upon each other.

2. (Currently amended) The acoustooptic filter according to Claim 1, wherein the phase match condition changer changes ~~changing means is means for changing~~ the phase speed of the surface acoustic wave at the mutual action area.

3. (Currently amended) The acoustooptic filter according to Claim 2, wherein the phase match condition changer changes ~~changing means is means for changing~~ the phase speed of the surface acoustic wave at the surface wave waveguide.

4. (Currently amended) The acoustooptic filter according to Claim 3, wherein the phase match condition changer ~~means for changing the phase speed of the surface acoustic wave at the surface wave waveguide~~ is a thin-film ridge disposed at the surface wave waveguide.

5. (Currently amended) The acoustooptic filter according to Claim 4, wherein a ~~the~~ thickness of the thin-film ridge changes along a length of the surface wave waveguide~~, so that the phase speed of the surface acoustic wave is changed at the surface wave waveguide~~.

6. (Currently amended) The acoustooptic filter according to Claim 3, wherein the phase match condition changer ~~means for changing the phase speed of the surface wave at the surface wave waveguide~~ has a structure in which the width of the surface wave waveguide changes in the direction of extension of the surface wave waveguide.

7. (Currently amended) The acoustooptic filter according to Claim 3, wherein the phase match condition changer comprises a pair of wall surfaces for reflecting the surface wave ~~are~~ disposed~~, one at each side~~ on opposite sides of the surface wave waveguide~~, and the phase speed at the surface wave waveguide is changed by the pair of wall surfaces~~.

8. (Currently amended) The acoustooptic filter according to Claim 7, wherein a thickness of the pair of ~~structures of wall members having the respective~~ wall

surfaces change along a length of the surface wave waveguide~~, so that the phase speed of the surface acoustic wave is changed~~.

9. (Currently amended) The acoustooptic filter according to Claim 7, wherein a ~~the~~ distance between the pair of wall surfaces changes~~, so that the width of the surface wave waveguide changes~~.

10. (Currently amended) The acoustooptic filter according to Claim 2, wherein the phase match condition changer ~~changing means~~ is a phase speed control film ~~for changing the phase speed of the surface acoustic wave at the mutual action area~~.

11. (Currently amended) The acoustooptic filter according to Claim 10, wherein ~~the thickness of~~ the phase speed control film has a changing thickness ~~is selected so that the phase match condition changes by 0.235% or more~~.

12. (Currently amended) The acoustooptic filter according to Claim 1, wherein the phase match condition changer changes one of ~~changing means is means for changing~~ a propagation coefficient of the surface acoustic wave and ~~or~~ an effective refractive index of the light at the mutual action area.

13. (Currently amended) The acoustooptic filter according to Claim 12, wherein the phase match condition changer sets ~~means for changing a propagation coefficient of the surface acoustic wave or an effective refractive index of the light is means for setting~~ a temperature distribution of the mutual action area.

14. (Currently amended) The acoustooptic filter according to Claim 13, wherein the phase match condition changer ~~temperature distribution setting means~~ is a heating element disposed on the acoustooptic substrate.

15. (Original) The acoustooptic filter according to Claim 14, wherein the heating element is a heater.

16. (Original) The acoustooptic filter according to Claim 14, wherein the interdigital electrode is the heating element.

17. (Currently amended) The acoustooptic filter according to Claim 13, wherein the phase match condition changer ~~temperature distribution setting means~~ is formed of a thin film disposed on the surface wave waveguide, and the thickness of the thin film partly differs so as to create ~~possess~~ the temperature distribution.

18. (Currently amended) The acoustooptic filter according to Claim 12, wherein the phase match condition changer ~~means for changing a propagation coefficient of the surface wave or an effective refractive index of the light at the mutual action area~~ is disposed at the optical waveguide.

19. (Currently amended) The acoustooptic filter according to Claim 18, wherein the phase match condition changer ~~means for changing a propagation coefficient or an effective refractive index of the light~~ is the optical waveguide, the optical waveguide having a width sufficient ~~which is set so as~~ to change the phase match condition ~~by 0.235% or more~~.

20. (Currently amended) The acoustooptic filter according to Claim 18, wherein the phase match condition changer ~~means for changing a propagation coefficient or an effective refractive index of the light, which is disposed at the optical waveguide,~~ is formed of a metal diffused at the optical waveguide.